

Manchester – Challenges of a rapidly growing city and the ways to fight them

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Manchester - a leading smart city



Why we need to be smart

Urban challenges are large and common across many cities providing opportunities to learn and to scale

20 years ago we were addressing decline - now having to deal with success

Cities are interconnected: health, transport, air quality, low carbon, housing, employment are all connected

Doing more with less - since 2010 our budgets have reduced by 40% and our staffing by 30%

Citizens expect more: same convenience in public services as from Facebook, Google, Amazon, Uber, AirB&B et al

Manchester - a leading smart city

Largest light railway network in UK - Metrolink is wholly publicly owned, clean transport system. Grew from a single line into a network. 8 lines, new zoning system, extra spur to Trafford Centre being built.

Health devolution - health and social care have been merged. MFT a single hospital trust bringing together Manchester's hospitals (with Trafford), "LCOs", local care organisations - 12 across the city.

Zero Carbon ambition - Manchester City Council committed to become zero carbon by 2038

City centre growth: residential and business - new developments such as the Northern Gateway extending the city centre

Virtually hosted Eurocities Knowledge Society Forum – Mayors roundtable & smart city showcase in September 2021

Part of the UK Smart City group – which developed out of EU Lighthouse project cities wanting to continue working together after their project completed.

Greater Manchester – plans for large scale programme of investment as Innovation Manchester

Smart City Projects



DEMONSTRATE · DISSEMINATE · REPLICATE









EU Horizon 2020 "Lighthouse" 2015-20 https://www.triangulum-project.eu/

Innovate UK City IoT Demonstrator 2016-18 https://cityverve.org.uk/

EU Horizon 2020 IoT "Large Scale Pilot" 2017-19 https://synchronicity-iot.eu/

EU URBACT Action Learning Network 2016-18 https://smartimpact-project.eu/

2020-1 – resources spent on dealing with the pandemic.

2022 onwards – keen to develop new collaborations with industry, academia, and other city and public sector partners.

Identify Problem



Cameras using machine learning to capture movement of people, cycles and vehicles.

Active travel insights to understand

- People counting during public events to help event management
- Movement of people at busy road junctions



Identify Problem



Worked with stakeholders to develop the use case

What road changes are being planned?

What data do we need?

How can this help?



Collecting Data



www.vivacitylabs.com @vivacitylabs

Influence Policy

- Working with stakeholders was vital in order to align with current priorities
- Designing the project carefully where we place the sensors, for how long, and what will they measure.
- What will be the impact of moving cars from the city centre?
- Using evidence to understand multi-modal transport usage
- Technology being extended to other parts of the city
- Tracsis data platform; Vivacity cameras
- Proving the value of the data to the people who most need it





Energy assessments in buildings at MMU and Manchester Art Gallery.

Led to recommended improvements.

158kw Solar PV at MMU Business School.

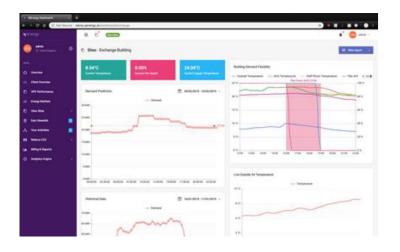
New BIM controller at art gallery.





Siemens installed electrical energy storage at MMU Business School to enhance the energy efficiency as part of the Triangulum project, enabling excess electricity to be stored and used at times of peak demand.

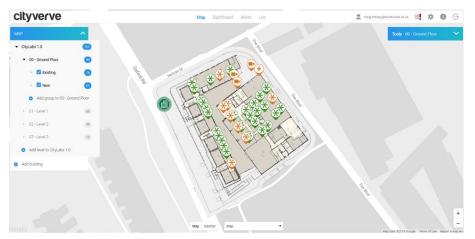


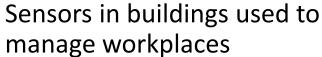


Bruntwood is a major property developer in Manchester. They have over 140 properties.

Monitoring & managing their energy usage enables them to improve their service to their tenants and reduce costs through a mix of green energy, storage and connected buildings.







- Legionella checks
- Meeting room occupancy
- Wash room resource monitoring
- Desk occupancy
- Lighting



Health



What's the problem?

Replacing Assistive Tech services in peoples homes with a Digital service that is:

- Enables continued service after the analogue signal goes off
- Can work with a variety of conditions: falls, dementia, COPD etc.
- Easier to install and adopt
- Allows monitoring both inside home and outside.
- Less intrusive to the user

Health

- Funding from the European Space Agency
- Working with AnywhereCare on a number of "client groups"
- Including development of a new device and wraparound service integrated with our Adult Social Care teams
- The Anywhere Fone is a wearable 4G mobile alarm with two-way hands-free voice, SMS and data communication to Social Care Alarm Receiving Centres operated by Manchester
- Supports the Re-enablement process to allow people to leave hospital sooner
- Increases independence and provides a more responsive service

How do we get involved?

- Our past track record has meant that we've been able to be involved in a number of major "smart" initiatives
- Good digital ecosystem in the city including digital, social innovation and University researchers (University of Manchester, Manchester Metropolitan University, Salford University)
- Experience of delivering successful UK & European funded projects
- Large city so meaningful pilots with suitable use cases
- Engaging with stakeholders both internal and exteral
- Identifying and addressing urban challenges.

Future Steps for a Smart City

Continuing to attract funding to respond to city challenges and mainstreaming pilots. Working with private sector and universities to collect data and use data.

Ensuring we use "privacy by design" and "security by design" to ensure that we consider the regulatory and ethical framework we work within.

New Digital Strategy approved by the council's Executive in September 2021 & new digital team being established to deliver on the action plan

Collaborating with colleagues at GMCA (Greater Manchester Combined Authority), UK Core Cities & Eurocities Knowledge Society Forum.

Thank You.

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